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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,666

08/25/2006

Shigeru Nakatsu

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EXAMINER

DARJI, PRITESH D

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

02/05/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/590,666	<b>Applicant(s)</b> NAKATSU ET AL.	
	<b>Examiner</b> PRITESH DARJI	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vesely '912 in view of Toshiyuki (JP 08-034619).

Vesely teaches platinum containing catalyst is composited with alumina or other refractory inorganic oxide combinations (column 1, lines 43-55). Vesely also teaches use of sulfuric acid to dissolve alumina and form soluble compound (column 2, lines 20-25). Vesely also teaches use of nitric acid with sulfuric acid (column 1, lines 59-63 and

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column 2, lines 5-7). Aqueous solution of acids is treated with platinum containing residue (col. 2, lines 36-54).

Vesely doesn't teach that alumina is supported on a metal carrier substrate.

Toshiyuki teaches a process to recover noble metal from metallic carrier catalyst in which activated alumina is used as a refractory inorganic oxide which forms a layer on a metal carrier substrate ([0011]). Toshiyuki teaches metal carrier catalyst dividing into metal carrier substrate and a catalyst bed and collecting the precious metals out of solution. (claim 1 of JP 08-034619).

It would have been obvious to a person of ordinary skill in the art to perform the process of Vesely including a metal carrier for the alumina support in view of Toshiyuki because the supported catalyst is used in a combustion engine where purifying of exhaust gas takes place at high temperature and pressure.

Vesely teaches sulfuric acid concentration is from 25% to 90% which overlaps that instantly claimed. See column 2, lines 3-7. Concentration of nitric acid in the working example is 25% which is higher than instantly claimed concentration. Nitric acid is mixed with hydrochloric acid in the working example. Sulfuric acid can be used instead of hydrochloric acid. See col. 2, lines 36-45. In the working example temperature of aqueous solution is 165°F to 185°F (74°C to 85°C).

Regarding nitric acid concentration, it would have been obvious to one of ordinary skill in the art at the time of the invention to use lower concentration of nitric acid because differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence

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indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 105 USPQ 233, 235.

Regarding sulfuric acid concentration, the reference weight percentage range that overlap the claimed ranges and considering the claimed ranges as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.C.P.Q.549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).

Regarding “which has been... catalytic device” of claims 6-10, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

### ***Response to Arguments***

Applicant's arguments filed on 10/30/2009 and 12/22/2009 have been fully considered but they are not persuasive.

Applicant argues that the mixed acid process taught by Vesely is not used for the same purpose as instant invention. It is drawn to dissolve the platinum residue in the aqua regia.

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However Vesely teaches mixed acid is used for separating platinum from the residue as chloroplatinic acid. See col. 2, lines 36-54. Toshiyuki (JP'619) teaches the immersion of a metal carrier catalyst into a mixed solution of sulfuric acid and phosphoric acid and after dissolving the metal carrier catalyst in the solution the noble metals (catalyst components) are collected out of solution. See [0010]. In the combination of references as a whole it would have been obvious to use nitric acid as functionally equivalent to phosphoric acid because both nitric acid and phosphoric acid are known to be used for treating noble metal catalysts. See Vesely col. 1, lines 55-65 and Toshiyuki [0010].

Applicant argues that the examiner has not responded to portions of applicant's previous patentability arguments regarding comparative results set forth in the instant specification.

However the comparative examples in the instant specification shows only 20wt% sulfuric acid being used which is not commensurate in scope with the instantly claimed mixed acid solution of sulfuric and nitric acids.

Applicant argues that the Vesely reference comprises two steps (i) and (ii). The instantly claimed method corresponds to step (i) of Vesely.

However instant claim 1 does not mention any steps in the method. The claim language does not exclude any other additional method steps.

Applicant argues that the purpose of using nitric acid in recovering catalytic component-supporting wash coat from a metallic carrier catalytic device is to form an oxide layer on the surface of the metallic carrier and to thereby prevent the metallic

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carrier surface from being dissolved by sulfuric acid so that the catalytic component-supporting coating can be effectively recovered from the metallic carrier without substantial dissolution of metallic carrier.

However this argument is not commensurate with the instant claims which do not require the above.

Applicant argues that Vesely does not teach using a mixed acid which contains sulfuric acid and nitric acid to treat deactivated catalyst.

However, "The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also In re Sneed, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). In the combination of references as a whole, the instant limitation has been met.

Applicant further argues that the present invention is neither taught nor suggested either in Toshiyuki nor Vesely at all.

However, "The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also In re Sneed, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983).

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Applicant argues that as seen in comparative examples 2 and 3 of the instant specification phosphoric acid is not very effective in protecting the surface of a metallic carrier therefore it cannot be said that phosphoric acid is functionally equivalent to nitric acid.

However, comparative examples 2 and 3 do not mention protecting the surface of metallic carrier. Furthermore, instant Table 1 shows results of comparative examples 2 and 3, in which phosphoric acid comprising samples have produced positive results in the recovery of noble metal, not as effective as nitric acid comprising sample but recovery rate is not claimed in the instant invention. Since both acids are being used for same purpose of recovery of noble metal, describing them as equivalents is reasonable.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRITESH DARJI whose telephone number is (571)270-5855. The examiner can normally be reached on Monday to Thursday 8:00AM EST to 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. D./

Examiner, Art Unit 1793

/Steven Bos/

Primary Examiner, Art Unit 1793